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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,005	11/07/2001	Naoto Ikegawa	215900US0	4580
22850	7590	08/12/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			KRUER, KEVIN R	
			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 08/12/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/986,005	Applicant(s) IKEGAWA ET AL.	
	Examiner Kevin R Kruer	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 3, and 5-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 15, 2004 has been entered.

Specification

2. The substitute specification July 15, 2004 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: Applicant did not provide an unmarked copy of the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 5, 7, 9-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polak (US 4,337,279) in view of Orikasa et al (US 5,179,160).

Polak teaches a metal clad polymer that has been treated with gas plasma prior to deposition of the metal. The gas plasma treatment improves the peel strength of the laminate (abstract). The polymer material may be selected from

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the group consisting of polyamides, acetals, polyolefins, polyphenaline sulfides, and the like (col 2, lines 37+). Deposition of the metal may be accomplished by any means known in the art, such as supporting, electrolysis, evaporation, pressing, etc. (col 3, lines 39+).

Polak does not teach that the substrate should comprise the claimed composition. However, Orikasa teaches a thermoplastic resin composition comprising 50-99wt% of a polyamide resin, and 50-1wt% of a multiphase structure thermoplastic resin composed of 5-95wt% ethylene copolymer such as epoxy group containing ethylene copolymers (abstract). The polyamide may comprise terephthalamide, or isophthalamide (col 3, lines 50+). The multiphase thermoplastic resin may comprise 60-99.5wt% ethylene, 0.5-40wt% unsaturated glycidyl group containing monomer, and 0-39.5wt% of at least one other unsaturated monomer (col 5, lines 32+). Examples of such resins include ethylene-glycidyl methacrylate-ethyl acrylate copolymer (col 4, lines 64+). The composition may further comprise inorganic filler in amounts of 1-50 pbw (col 9, lines 3+). Suitable filler include spherical, needle, and fibrous fillers such as talc, mica, glass, and the like (col 9, lines 8+). The composition exhibits excellent mechanical toughness, durability, solvent resistance, hygroscopicity, moldability, and impact resistance (col 1, lines 7+). Thus, it would have been obvious to utilize the composition taught in Orikasa as the substrate taught in Polak because said composition exhibits improved mechanical toughness, durability, solvent resistance, hygroscopicity, moldability, and impact resistance.

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5. Claims 1, 3, 5-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polak (US 4,337,279) in view of Suzuki et al (US 5,578,679).

Polak teaches a metal clad polymer that has been treated with gas plasma prior to deposition of the metal. The gas plasma treatment improves the peel strength of the laminate (abstract). The polymer material may be selected from the group consisting of polyamides, acetals, polyolefins, polyphenaline sulfides, and the like (col 2, lines 37+). Deposition of the metal may be accomplished by any means known in the art, such as supporting, electrolysis, evaporation, pressing, etc. (col 3, lines 39+).

Polak does not teach that the substrate should comprise the claimed composition. However, Suzuki teaches a composition comprising (A) 90-99.5wt% of a polyarylene sulfide such as polyphenylene sulfide (col 4, line 67), and (B) 0.5-10wt% of a graft copolymer composed of an olefinic copolymer having (a) 30-59wt% of an olefin repeating unit and a glycidyl ester residue repeating unit which is branched or crosslinked with a polymer (b) having at least one olefinic copolymer of formula (I) (abstract). The (a) olefin copolymer preferably comprises ethylene and glycidyl methacrylate (col 2, lines 50-67). Polymer (b) which is grafted to said olefin copolymer (a) may comprise poly(acrylonitrile-stryene) (col 3, line 7). The composition may further comprise inorganic filler in amounts of 1-200wt% (col 5, lines 8+). Suitable materials include talc. Such fillers include fiber with a length of 0.5um to 20mm and a diameter of 0.1-30um, and plate like particulate material such as those having a particle size of 0.01-100um and a thickness of 1-50um (col 5, lines 21+). The

filler may also comprise powders, which are understood to read on the spherical filler of claim 9. Said resins are flame resistant and are particularly useful as insulating materials for electrical materials. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the composition taught in Suzuki as the substrate taught in Polak. The motivation for doing so would have been because said composition has excellent fire resistance.

With regard to claim 8, Suzuki teaches that either fibers or plate-form inorganic fillers may be added to the composition but does not teach the use of both in the same composition. The courts have held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a composition comprising both fibers and plate-like fillers. The motivation for doing so would have been that Suzuki teaches both are useful as filler.

6. Claims 1, 3, 5, 7, 9-12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polak (US 4,337,279) in view of Orikasa et al (US 5,157,070)

Polak teaches a metal clad polymer that has been treated with gas plasma prior to deposition of the metal. The gas plasma treatment improves the peel strength of the laminate (abstract). The polymer material may be selected from the group consisting of polyamides, acetals, polyolefins, polyphenaline sulfides,

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and the like (col 2, lines 37+). Deposition of the metal may be accomplished by any means known in the art, such as supporting, electrolysis, evaporation, pressing, etc. (col 3, lines 39+).

Polak does not teach that the substrate should comprise the claimed composition. However, Orikasa teaches a thermoplastic resin composition comprising (a) 1-99 parts by weight of polyarylene sulfide such as PPS, and (b) 0.1-100 parts by weight of a multi-phase structure thermoplastic resin which is composed of epoxy group containing olefin copolymer and vinyl polymer (abstract). Preferred resins (b) included ethylene-ethyl acrylate-glycidyl methacrylate copolymers (col 5, line 8). The composition may further comprise spherical, lamellar, needle, or fibrous inorganic filler (col 8, lines 63+) in amounts up to 150 parts by weight of the composition (col 9, lines 9+). The composition has excellent impact resistance, electrical properties, heat resistance, and dimensional stability (col 1, lines 10+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the composition taught in Orikasa as the substrate of the laminate taught in Polak. The motivation for doing so would have been because said composition has excellent impact resistance, electrical properties, heat resistance, and dimensional stability.

7. Claims 1, 5, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polak (US 4,337,279) in view of Bailey et al (US 5,681,893).

Polak teaches a metal clad polymer that has been treated with gas plasma prior to deposition of the metal. The gas plasma treatment improves the peel

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strength of the laminate (abstract). The polymer material may be selected from the group consisting of polyamides, acetals, polyolefins, polyphenylene sulfides, and the like (col 2, lines 37+). Deposition of the metal may be accomplished by any means known in the art, such as supporting, electrolysis, evaporation, pressing, etc. (col 3, lines 39+).

Polak does not teach that the substrate should comprise the claimed composition. However, Bailey teaches a composition comprising (a) polyarylene sulfide such as polyphenylene sulfide (col 2, line 7), and (b) an elastomeric polymer (abstract). The elastomeric polymer is preferably an olefin containing units derived from a glycidyl ester of an unsaturated carboxylic acid (col 2, lines 26+). Preferred examples included ethylene-glycidyl methacrylate-methyl acrylate copolymers (col 2, line 38). The polymer may further comprise inorganic fillers (col 1, lines 43+). The composition exhibits improved ductility and impact resistance (col 1, lines 28+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the composition taught in Bailey as the substrate of the laminate taught in Polak. The motivation for doing so would have been because said composition exhibits improved impact resistance and ductility.

Response to Arguments


Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, appearing to read 'K-R Kruer'.

Kevin R. Kruer
Patent Examiner-Art Unit 1773